

8. (New) The database system of claim 7, wherein the each hierarchical link table includes a set of links that define relationships between parent and child nodes using the node identifiers from the node database.
9. (New) The database system of claim 8, wherein each hierarchical link table includes time period fields for each link to optionally establish start and end times for each link.
10. (New) The database system of claim 7, wherein the each data entry in the node database includes time period fields to optionally establish start and end times for each data entry.
11. (New) The database system of claim 6, wherein the first application program provides a first rate scheme for a telecommunications provider, and the second application program provides a second rate scheme for the telecommunications provider.

#### REMARKS

Claims 1-5 were presented for prosecution and presently stand rejection. New claims 6-11 have been added herein by amendment. In addition, the abstract was objected to, and has been amended to address the cited informalities. No new matter is believed added.

Claim 1 stands rejected under 35 USC 102(b) as allegedly being anticipated by Oulid-Aissa et al., U.S. Patent 5,835,757 ('757). Applicant respectfully traverses the rejection because '757 fails to teach each and every feature of claim 1. In particular, '757 fails to teach, inter alia, a

hierarchical link table as claimed by Applicant. The Office Action alleges that the indirection table of '757 teaches Applicant's link table. However, upon a careful reading of '757, it is clear for numerous reasons that Applicant's claimed hierarchical link table is distinct from the indirection table of '757. First, the indirection table of '757 does not hold "**relationship data**, which define the hierarchical structure of said [separately stored] node data." Instead, the indirection table of '757, as clearly shown in Figure 16, includes only indices that point from nodes in a hierarchical structure to node data in a physical database. Accordingly, the indirection table of '757 only includes "node" information, while claim 1 includes "relationship data" (e.g., the identity of the parent and child for a given link).

Secondly, the indirection table of '757 does not "define the hierarchical structure," as claimed by Applicant. The indirection table only points to where the physical values for nodes in a hierarchy are stored. One could not possibly define the structure of a tree hierarchy using the indirection table of '757. Conversely, in Applicant's claim 1, the very "hierarchical structure of the of the node data" is defined by the link table.

Thirdly, there is no teaching in '757 that a link table is "provided for each of the application programs," as provided in Applicant's claim 1, i.e., '757 makes no teaching of providing a hierarchical link table for each application program. '757 only suggests that alternate "key tables" are possible, but does not teach or suggest providing a unique table for each application. In summary, because '757 fails to teach a hierarchical link table, Applicant submits that claim 1 is not anticipated by '757 and therefore the 35 USC 102(b) rejection should be withdrawn.

Claims 2-4 stand rejected under 35 USC 103(a) as allegedly obvious over '757 in view of Delia et al., U.S. Patent 6,249,789 ('789). Claim 5 stands rejected under 35 USC 103(a) as allegedly obvious over '757 in view of Delia et al., U.S. Patent 6,249,789 ('789), and in further view of Fujiwara, U.S. Patent 5,701,457. Applicant respectfully traverses these rejections because Delia, '789, does not qualify as prior art under 35 USC 103(c). Specifically, under 103(c), prior art under 102(e) "shall not preclude patentability [ ] where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person." In this case both the invention and 102(e) reference are owned by International Business Machines Corporation. Accordingly, the rejections are not proper and should be withdrawn.

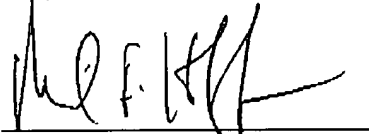
Applicant further traverses these rejections because: (1) there is no suggestion or motivation for combining '757 and '789 to obtain the claimed invention; and (2) the combination fails to teach or suggest each of the claim features of the present invention. In particular, claim 2 provides a system in which period data is included in a hierarchical link table that defines a hierarchical structure. Not only does the primary reference fail to teach or suggest such a table, but it provides no motivation for including period data as part of the processing. '789 provides nothing more than a methodology for subdividing time intervals of continuous parametric data and determining parametric data values of the subdivided time intervals. There is no teaching or suggestion in '789 of including time periods in a link table that defines a hierarchical structure.

Moreover, as claimed by Applicant in claim 2, "data records" are used to hold "relationship data" and "period data." Conversely, "data records" as pointed out in the Office Action with respect to of '789 include only time interval data. Accordingly, there is no suggestion or teaching of coupling the time interval data with relationship data. For these

reasons, as well as others, Applicant submits that claim 2, as well as claims 3-5, which depend therefrom, are not obvious in view of the cited art.

Applicant respectfully submits that the application as presented is in condition for allowance. Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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## SEPARATE SHEET

### IN THE ABSTRACT

The present invention provides a database system having [that can flexibly and quickly cope with additions or changes in the contents of an application or associated data (including the services provided and clients). In principle, relationship data (a pointer, etc.) for databases (entities) are not included in] a database in which data to be processed by an application program are stored (hierarchical node database). A table (hierarchical link table) in which mainly relationship data (e.g., a pointer) for the database are entered is prepared for a corresponding application program. The individual application programs can refer to the corresponding hierarchical link tables and can access desired hierarchical node databases. When the hierarchical data structure is to be changed, such as by the addition of an application due to a new request, a corresponding alteration need only be reflected in the hierarchical link table. [Further, as needed, effective period data can be entered in the link tables. Therefore, when the above changes must be performed during a target period, an appropriate retroactive process can be quickly and easily performed.]